

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 032917woJHm1	FOR FURTHER ACTION <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No. PCT/EP2004/000065	International filing date (day/month/year) 08/01/2004	(Earliest) Priority Date (day/month/year) 08/01/2003
Applicant ARTEMIS PHARMACEUTICALS GMBH		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☒ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box II).

3. ☐ Unity of invention is lacking (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. _____

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☒ none of the figures is to be published with the abstract.

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Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
 - a. type of material
 - ☒ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material
 - ☒ In written format
 - ☒ In computer readable form
 - c. time of filing/furnishing
 - ☒ contained in the international application as filed
 - ☐ filed together with the international application in computer readable form
 - ☒ furnished subsequently to this Authority for the purpose of search
2. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/90 C12N15/63 C12N5/10 A01K67/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N A01K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

SEQUENCE SEARCH, MEDLINE, BIOSIS, EPO-Internal, WPI Data, PAJ, EMBASE, SCISEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/53017 A (HUTCHINSON FRED CANCER RES) 21 October 1999 (1999-10-21) the whole document ---	1-9, 11, 12, 14-16
X	WO 02/38613 A (ARTEMIS PHARMACEUTICALS GMBH) 16 May 2002 (2002-05-16) the whole document ---	1-9, 11, 12, 14-16
X	WO 02/098217 A (DECHIARA THOMAS M ;ECONOMIDES ARIS N (US); REGENERON PHARMA (US);) 12 December 2002 (2002-12-12) the whole document --- -/--	1-9, 11, 12, 14-16

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

28 May 2004

Date of mailing of the international search report

15/06/2004

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DACQUIN ROMAIN ET AL: "Mouse alpha(I)-collagen promoter is the best known promoter to drive efficient Cre recombinase expression in osteoblast." DEVELOPMENTAL DYNAMICS, vol. 224, no. 2, June 2002 (2002-06), pages 245-251, XP009016708 June, 2002 ISSN: 1058-8388 the whole document	1-9, 11, 12, 14-16
X	MOSES KELVIN A ET AL: "Embryonic expression of an Nkx2-5/Cre gene using ROSA26 reporter mice." GENESIS THE JOURNAL OF GENETICS AND DEVELOPMENT, vol. 31, no. 4, December 2001 (2001-12), pages 176-180, XP009016701 December, 2001 ISSN: 1526-954X the whole document	1-9, 11, 12, 14-16
E	WO 03/020743 A (DECHIARA THOMAS M ;ECONOMIDES ARIS N (US); GALE NICHOLAS W (US); R) 13 March 2003 (2003-03-13) the whole document	1-9, 11, 12, 14-16

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Although claims 1-9, 12-14 and 16 do not exclude a method of treatment of the human/animal body or a diagnostic method practiced on the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Claims 1-5, 7-9, 11, 12, 14 and 16 also encompass human embryonic stem cells or the use thereof. This subject-matter may be contrary to morality in certain PCT member states (cf. e.g. Art. 53(a) of the EPC).

Claim 15 also encompasses transgenic human beings. This subject-matter is contrary to morality in certain PCT member states (cf. e.g. Art. 53(a) of the EPC).

Continuation of Box II.2

Claims Nos.: 10 and 13

Claims 10 and 13 fail to comply with the requirements of Art. 6 PCT (clarity) to such an extent that a meaningful search could not be carried out (Art. 17(2)(a)(ii) PCT). Claim 10 is directed to a product, namely a targeting vector as defined in claims 1-8. Method claim 13 refers to modifying an ES cell as defined in claims 1-9. However, claims 1-9 are directed to a method for generating transgenic eukaryotic cells.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

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Box II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☒ Claims Nos.: 10 and 13
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9953017	A	21-10-1999	EP 1071471 A2 WO 9953017 A2 US 6461864 B1	31-01-2001 21-10-1999 08-10-2002
WO 0238613	A	16-05-2002	EP 1205490 A1 AU 2182902 A WO 0238613 A2 EP 1395612 A2 US 2004003420 A1	15-05-2002 21-05-2002 16-05-2002 10-03-2004 01-01-2004
WO 02098217	A	12-12-2002	CA 2449303 A1 EP 1392111 A1 WO 02098217 A1 US 2003003581 A1	12-12-2002 03-03-2004 12-12-2002 02-01-2003
WO 03020743	A	13-03-2003	WO 03020743 A1 US 2003084468 A1	13-03-2003 01-05-2003